

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF THE CLAIMS:

Claims 1-21. (cancelled)

22. (original) A mass spectrometer comprising an ion source for providing analyte ions, a drift region, an ion accelerator for accelerating the analyte ions into the drift region, and an apparatus for electron multiplication and ion detection, the apparatus having an input end and an output end and comprising:

a multi dynode device comprising a plurality of dynode plates in a stacked relationship, each dynode plate of the plurality having a plurality of apertures, wherein the apertures of one dynode plate are offset from the apertures of adjacent dynode plates; and

a power source connected to the multi dynode device.

23. (original) The mass spectrometer of Claim 22, wherein the apparatus further comprises a microchannel plate at the input end of the apparatus adjacent to the multi dynode device, and wherein the analyte ions enter the microchannel plate and produce electrons that enter the multi dynode device, and wherein the apertures in each dynode plate are offset such that the electrons impact one or more dynode plates to produce multiple secondary electrons with each impact.

24. (original) The mass spectrometer of Claim 22, wherein the mass spectrometer is a time-of-flight mass spectrometer.

25. (new) A method of assembling a multi dynode device comprising:

placing a plurality of dynode plates onto an assembly frame in a stacked relationship; and

securing the stacked plurality of dynode plates together before removing the stack from the assembly frame,

wherein the assembly frame comprises inclined alignment pins, the inclined alignment pins defining a lateral offset amount, the plurality of dynode plates being laterally offset from one another in the stacked relationship by the lateral offset amount.

26. (new) The method of assembling of Claim 25, wherein each dynode plate comprises a plurality of apertures, the apertures of each dynode plate being laterally offset from the apertures in adjacent dynode plates in the stacked relationship.

27. (new) The method of assembling of Claim 25, wherein placing comprises guiding and orienting the dynode plates in the stacked relationship with respect to one another on the assembly frame using the inclined alignment pins.

28. (new) The method of assembling of Claim 25, further comprising alternately placing a spacer ring of a plurality of spacer rings between adjacent dynode plates of the plurality, wherein securing the stacked plurality comprises securing together the alternately stacked plurality of dynode plates and spacer rings.

29. (new) The method of assembling of Claim 25, further comprising applying a passive device material to a periphery of a surface of the dynode plates, the surface being the surface that faces an adjacent dynode plate when subsequently placed in the stacked relationship, the applied passive device material providing an integral spacer ring between adjacent dynode plates in the stacked relationship, the passive device material comprising one or both of a resistive material and a capacitive material, the applied passive device material providing an integral bias network to the secured stacked plurality.